

# Redlands Municipal Airport

## Land Use Compatibility Plan



Adopted  
by  
Redlands City Council  
February 18, 1997  
Revised May 6, 2003



Prepared  
by  
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Santa Rosa, California

RESOLUTION NO. 5344

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF REDLANDS  
ADOPTING THE REDLANDS MUNICIPAL AIRPORT LAND USE  
COMPATIBILITY PLAN

WHEREAS, the City of Redlands, through the adoption of Assembly Bill 2831 (AB 2831) by the State legislature, is required to comply with the guidelines of AB 2831; and

WHEREAS, on December 10, 1996, the Planning Commission of the City of Redlands reviewed and recommended approval of the Redlands Municipal Airport Land Use Compatibility Plan to satisfy the guidelines of the "alternative process" provision of AB 2831;

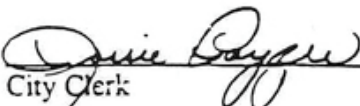
NOW, THEREFORE, BE IT RESOLVED by the City Council of the Redlands of Redlands as follows:

Section 1. The City Council of the City of Redlands adopts the Redlands Municipal Airport Land Use Compatibility Plan in the form attached hereto as Exhibit "A."

ADOPTED, SIGNED AND APPROVED this 18th day of February, 1997.

  
Mayor of the City of Redlands, California

ATTEST:

  
City Clerk

I, Lorrie Poyzer, City Clerk of the City of Redlands, California, do hereby certify that the foregoing resolution was duly adopted by the City Council at a regular meeting thereof held on the 18th day of February, 1997, by the following vote:

AYES: Councilmembers Gilbreath, Cunningham, Banda;  
Mayor Larson

NOES: None

ABSENT: Councilmember Gil

ABSTAIN: None

  
City Clerk, City of Redlands, California

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# Introduction

# Introduction

## AIRPORT LAND USE COMPATIBILITY PLANNING

Requirements for preparation of airport land use compatibility plans were first established under the California State Aeronautics Act (Public Utility Code Sections 21670 et seq.) in 1970. Traditionally, this task was one of the duties of an airport land use commission (ALUC). From 1967 - when they were first created - to 1993, ALUCs were mandatory in each county having a public airport served by a certificated air carrier. Beginning in 1984, the requirement was extended (with limited exceptions) to each county having an airport "operated for the benefit of the general public."

For a brief period in 1993 and 1994, ALUCs were permissive rather than mandatory under the law. Then, in 1994, the legislature again modified the statutes to reinstate the mandatory status. At the same time, though, the legislation (AB 2831) provided for an alternative process by which the airport land use planning function of ALUCs could be accomplished. Subject to the approval of the California Department of Transportation (Caltrans) Aeronautics Program (previously the Division of Aeronautics), a county can implement this alternative process by doing all of the following:

- "Adopt processes for the preparation, adoption, and amendment of the comprehensive airport land use plan for each airport that is served by a scheduled airline or operated for the benefit of the general public.
- Adopt processes for the notification of the general public, landowners, interested groups, and other public agencies regarding the preparation, adoption, and amendment of the comprehensive airport land use plans.
- Adopt processes for the mediation of disputes arising from the preparation, adoption, and amendment of the comprehensive airport land use plans.
- Adopt processes for the amendment of general and specific plans to be consistent with the comprehensive airport land use plans.
- Designate the agency that shall be responsible for the preparation, adoption, and amendment of each comprehensive airport land use plan."

In 1993, the County of San Bernardino and its incorporated cities elected to dissolve its airport land use commission as the law then allowed. With legislative adoption of the subsequent requirement for local government to continue to engage in airport land use planning, the county and affected cities determined that the alternative process outlined by the legislation was appropriate for all airports within San Bernardino County. Furthermore, the county and cities delegated to each airport owner the responsibility for preparation of an airport land use compatibility plan and established an *Airport Mediation Board* to help resolve any disputes which may arise out of the plans' preparation. (See Appendix F herein for a description of the mediation process.)

## PLAN PREPARATION AND REVIEW

This *Redlands Municipal Airport Land Use Compatibility Plan* is a result of the 1994 state legislation and the subsequent actions by the county and affected cities. The City of Redlands action agreeing to the provisions of the alternative process is set forth in City Council Resolution No. 5175, adopted on April 18, 1995 (a copy is included in Appendix F).

The plan is similar in most ways to a plan which an airport land use commission might adopt. As required by Section 21675 of the Airport Land Use Commission statutes, a compatibility plan - regardless of whether it is prepared by an ALUC or as a consequence of the alternative process - must "provide for the orderly growth of each public airport and the area surrounding the airport ... " and "safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general." Also, the preparation of compatibility plans must be "guided by" information contained in the Caltrans *Airport Land Use Planning Handbook* published in 1993.

The compatibility review criteria and policies as outlined in Sections 2 and 3 of Chapter 2 herein thus are comparable to the criteria and policies found in ALUC plans. In other words, the *factors* which determine whether a given type of land use is suitable for development within a certain part of an airport environs remains the same irrespective of what entity is conducting the review. Noise and safety are the two basic compatibility factors which must be addressed in these reviews.

However, the *procedures* by which a compatibility review is conducted are inevitably different when individual local governments have the primary review responsibility rather than an ALUC. Most of the policies in Section 1 of Chapter 2 - especially those in Sections 1.4 through 1.8 - reflect this non-ALUC approach to land use compatibility planning for the Redlands Municipal Airport.

A draft of this plan was completed in September 1996 and circulated for public and agency review and comment. Additionally, the plan was formally reviewed by the City of Redlands Environmental Review Committee, Airport Advisory Board, and Planning Commission. Only minor comments resulted from these reviews. Following a public hearing, the Redlands City Council adopted the plan on February 17, 1997.

## PLAN IMPLEMENTATION

### General Plan Consistency

When an airport land use commission exists in a county and the commission has adopted a compatibility plan, the state law requires the county and each city in the county to amend its general plan and any applicable specific plans to be consistent with the ALUC's compatibility plan. (Alternatively, local agencies can make findings that their plans are consistent with the intent of the state law and override the ALUC.) This statutory requirement for consistency is also applicable to the alternative process.

To achieve this required consistency, a general plan must do two things: it must specifically address compatibility planning issues; and it must avoid direct conflicts with compatibility planning criteria. Most community general plans pay little attention to the noise and safety factors associated with airport land use compatibility. Also, some of the designated land uses of property near an airport frequently are contrary to good compatibility planning.

Compatibility planning issues can be reflected in a general plan in several ways:

- *Incorporate Policies into Existing General Plan Elements* - One method of achieving the necessary planning consistency is to modify existing *General Plan* elements. For example, airport land use noise policies could be inserted into the noise element, safety policies could be placed into a safety element, and the primary compatibility criteria and associated maps plus the procedural policies might fit into the land use element. With this approach, the majority of the *Compatibility Plan* policies would be fully incorporated into the general plan.
- *Adopt a General Plan Airport Element* - Another approach is to prepare a separate *airport element* of the *General Plan*. Such a format may be advantageous when the *General Plan* also needs to address on-airport development and operational issues. Modification of other plan elements to provide cross referencing and eliminate conflicts would still be necessary.
- *Adopt Compatibility Plan as Stand-Alone Document* - This option would involve minimal changes to the existing *General Plan* other than to refer to the separate *Compatibility Plan* document and remove any direct conflicts with compatibility planning criteria. Limited discussion of compatibility planning issues could be included in the *General Plan*, but the substance of most policies would appear only in the *Compatibility Plan*.

Although all of the above options remain viable for the City of Redlands, this *Compatibility Plan* is formatted in a manner which will allow the City Council to adopt it as a stand-alone document. Certain modifications to sections of the 1995 *City of Redlands General Plan* will nevertheless still be necessary. To facilitate this amendment process, Appendix G identifies where such changes may be appropriate.



## Airport Overlay Zone

Beyond the above policy level choice, establishment of tools for implementation of the policies is also essential. The basic test is whether airport land use compatibility criteria will be readily available to and routinely considered by the staff who review individual development proposals. One tool which can be particularly useful in this regard is an airport overlay zone or combining district.

An airport overlay zoning ordinance is a way of codifying airport compatibility criteria and review procedures identified in the general plan only in concept. As described in the Caltrans *Airport Land Use Planning Handbook*, an airport overlay zone “permits the continued utilization of the majority of the design and use guidelines contained in the existing general plan and zoning ordinance. At the same time, it provides a mechanism for implementation of restrictions and conditions that may apply to only a few types of land uses within a given land use category or zoning district.” Additional text from the *Handbook* pertaining to this subject is included in Appendix E herein.

An airport overlay zone would be a particularly useful tool for compatibility planning around the Redlands Municipal Airport because most of the surrounding land is within the city's jurisdiction. The ordinance could supplement individual land use zoning districts by adding specific noise and safety criteria as indicated in this *Compatibility Plan* (maximum numbers of people per acre permitted on a site, site design and open space criteria, height restrictions, etc.) and also further define key components such as buyer awareness measures. The city is strongly encouraged to consider preparation and adoption of such an ordinance.

## Other Jurisdictions

### *Plan Review and Approval*

Several discussions were held with the planning staffs of the County of San Bernardino and City of Highland during the course of preparation of this *Compatibility Plan*. Copies of both the preliminary and final draft plan were submitted to these jurisdictions for review. Comments received from the County are reflected in this adopted plan. No formal response has been received from the City of Highland.

Successful implementation of the plan requires more formal review and action by these jurisdictions. Although it is not essential that the County of San Bernardino and City of Highland adopt the *Compatibility Plan*, it is important that they take some type of formal action to recognize the plan and agree to implement its procedures and criteria. Such action could be in the form of an interagency agreement. Policies defining when notification from one agency to another is desirable are indicated in Section 1.8 of Chapter 2.

Every effort should be made to obtain mutual agreement on the portions of the *Compatibility Plan* that affect these jurisdictions. Activation of the San Bernardino County Airport Mediation Board - as provided for in the county and city resolutions implementing the AB 2831 process - should be a last

resort. [Note that if the Airport Mediation Board is needed, the county and cities first must decide upon the membership composition of the board. This was not done as part of the original resolutions. Since this board would meet only rarely and the whole idea of the alternative process is to eliminate the need for a separate ALUC, utilization of a board or commission which already exists for other purposes is recommended. A candidate in this regard is the San Bernardino County Local Agency Formation Commission (LAFCO). It has multi-jurisdictional representation and is accustomed to dealing with planning issues. Other options include committees of the countywide council of governments.]

### ***Relationship to San Bernardino International Airport***

The western edge of the City of Redlands lies immediately adjacent to the boundary of San Bernardino International Airport (SBIA), the former Norton Air Force Base. Aircraft approaching and departing that facility overfly and have impacts on lands within the City of Redlands. The resulting compatibility concerns, however, are not considered in this *Redlands Municipal Airport Land Use Compatibility Plan*. Such issues need to be addressed in a plan specific to SBIA. It is recommended that the San Bernardino International Airport officials, in consultation with the City of Redlands and other affected jurisdictions, define an airport influence area for the airport and prepare a land use compatibility plan in accordance with state statutes.

## **PLAN CONTENTS**

As is apparent from the above discussion, the most important components of this plan are found in Chapter 2. Chapter 2 presents the compatibility criteria and map intended for use in evaluating land use proposals in the Redlands Municipal Airport vicinity. Criteria for evaluation of future updates to the *Redlands Municipal Airport Master Plan*, as well as review of any proposals for construction of heliports within the Redlands city limits are also included. Additionally, the chapter establishes procedures for accomplishment of compatibility reviews and for coordination of such reviews with the County of San Bernardino and City of Highlands when those jurisdictions would also be affected. The policies set forth in Chapter 2 are derived from and based upon the information and guidelines contained in the Caltrans *Airport Land Use Planning Handbook*.

The remainder of the document constitutes supporting material. Chapter 3 contains background data regarding the Redlands Municipal Airport and its environs. This data is included as a means of documenting the airport-specific information upon which this *Compatibility Plan* is based. The appendices provide other information related to airport land use planning in general and the compatibility planning for the Redlands Municipal Airport in particular.



2

Policies

# 2

## Policies

### 1. GENERAL APPLICABILITY

#### 1.1. Purpose

The purpose of this *Redlands Municipal Airport Land Use Compatibility Plan* is to establish procedures and criteria by which:

1.1.1. *City of Redlands* - The City of Redlands can:

- (a) Address airport compatibility issues when making planning decisions affecting land uses in the vicinity of the Redlands Municipal Airport;
- (b) Evaluate the land use compatibility implications of future plans for development or use of the airport; and
- (c) Review proposals for development of other aircraft landing sites, especially heliports, which may affect nearby land uses within the city limits.

1.1.2. *County of San Bernardino* - The County of San Bernardino can:

- (a) Address airport compatibility issues involving unincorporated portions of the Redlands Municipal Airport vicinity.

1.1.3. *City of Highland* - The City of Highland, can:

- (a) Be alert to the proximity of the Redlands Municipal Airport and the potential effects of its air traffic on land uses on the south side of the city.

#### 1.2. Geographic Scope

1.2.1. *Redlands Municipal Airport Influence Area* - Most of the policies set forth herein are directed toward land uses influenced by the proximity of the Redlands Municipal Airport.

- (a) In general, this influence area is defined to encompass:

- (1) All lands on which the uses could be negatively affected by present or future aircraft operations at the Redlands Municipal Airport and
  - (2) Lands on which the uses could negatively affect said airport.
  - (b) The specific limits of the Redlands Municipal Airport influence area are depicted on the Redlands Municipal Airport Compatibility Map, Figure 2A, later in this chapter.
  - (c) The Redlands Municipal Airport influence area includes lands within unincorporated portions of the County of San Bernardino as well as lands within the Redlands city limits.
  - (d) No lands within the incorporated boundaries of the City of Highland fall within the airport influence area. However, the southern part of the city is noted on the Compatibility Map as an area of special compatibility concern as described in Section 2.2.4.
- 1.2.2. *Citywide Impacts on Flight Safety* - Airport compatibility concerns also extend to other lands (regardless of their location in the city limits) on which certain land use characteristics could adversely affect the safety of flight. These characteristics are listed in Paragraph 1.5.2.(g).
- 1.2.3. *Existing and Future Heliports* - The policies listed in Section 1.7 apply to the site and environs of any public-use or special-use heliport (as defined by the California Department of Transportation) which may exist or be proposed anywhere within the Redlands city limits.

### **1.3. Types of Airport Impacts**

- 1.3.1 Principal Compatibility Concerns - The airport land use compatibility concerns addressed by this plan fall into four categories:
- (a) Exposure to aircraft noise;
  - (b) Land use safety with respect both to people and property on the ground and the occupants of aircraft;
  - (c) Protection of airport airspace; and
  - (d) General concerns related to aircraft overflights.
- 1.3.2. Other Airport Impacts - Other impacts sometimes created by airports (e.g., air pollution, automobile traffic, etc.) are not considered herein.

### **1.4 Relationship to Local General Plans and Zoning**

- 1.4.1 Land Use Designations - The airport land use compatibility criteria included herein are intended to supplement the criteria established for individual land use designations under the City of Redlands and the County of San Bernardino general plans and zoning ordinances.

- 1.4.2 Options for Addressing Inconsistencies - Where direct conflicts exist between these criteria and the adopted land use designation for a particular location, one of the following actions should be taken:
- (a) If the property in question is undeveloped, the land use designation should be changed to one which is compatible with airport activities as defined herein.
  - (b) In cases where the affected land use already exists, the preferred action also is to change the land use designation to one which is compatible with airport activities. The effect of such an action would be to place the land use in a nonconforming status.
  - (c) Where a change in land use designation is not practical because of other land use planning considerations, appropriate restrictions on the use should be established by means of an airport overlay zone.
  - (d) Property situated immediately beyond each end of the proposed extension of the Redlands Municipal Airport runway should be acquired by the City of Redlands as recommended by the adopted Redlands Municipal Airport Master Plan.
- 1.4.3 Precedence - Until such time as one of the above actions is taken with regard to a particular parcel, the land use designations established in local general plans, specific plans, and zoning ordinances shall have precedence over the airport land use compatibility criteria set forth herein.
- 1.4.4. Land Use Plan Amendments - Any proposals to amend a general plan, specific plan, or zoning ordinance land use designation affecting land within the Redlands Municipal Airport influence area shall be reviewed with respect to the compatibility criteria set forth herein.
- (a) In the City of Redlands, this review requirement is established by General Plan policy 5.70h.
- 1.4.5. Required Findings - Prior to approval of any such amendment, specific findings shall be made that:
- (a) The amendment is consistent with the primary compatibility criteria and/or the supporting criteria for noise, safety, airspace protection, and overflight; or
  - (b) Other overriding land use factors are of higher priority.

## **1.5 Review of Individual Development Actions**

- 1.5.1 Purpose of Special Review - Once applicable general plans, specific plans, and zoning ordinances are brought into conformance with the compatibility criteria set forth in these policies, proposals for individual land use developments ordinarily would not require any special review for airport compatibility. However, certain

types of major public or private land use developments have the potential to significantly affect Redlands Municipal Airport activities or be affected by those activities.

- (a) The local jurisdiction having authority over approval of the development proposal (the City of Redlands or County of San Bernardino) shall specifically review the major development actions, as listed in Paragraph 1.5.2., for conformance with these airport compatibility criteria.
- (b) The agency responsible for any such review shall coordinate its review with other affected agencies as indicated in Section 1.8.

1.5.2. *Types of Major Development* - Except as noted under special conditions (Section 2.2.3), this special compatibility review process shall apply to the following types of land use development located within the Redlands Municipal Airport influence area defined in Section 1.2.1:

- (a) Any project requiring a general plan, specific plan, or zoning ordinance amendment.
- (b) Proposed residential development, including land divisions, consisting of five or more dwelling units or parcels.
- (c) Building permit applications for projects having a valuation greater than \$1,000,000.
- (d) Major capital improvements (e.g., water, sewer, or roads) which would promote urban uses in undeveloped or agricultural areas.
- (e) Proposed land acquisition by a government entity for the purpose of developing a school or hospital.
- (f) Requests for variance from the height limits established by a local zoning ordinance.
- (g) Regardless of location within the City of Redlands, any proposal for construction or alteration of a structure (including antennas) taller than 200 feet above the ground level at the site. (Such structures also require notification to the Federal Aviation Administration in accordance with Federal Aviation Regulations Part 77, Paragraph 77.13(a)(1). See Appendix B herein.)
- (h) Any other proposed land use action, as determined by the respective local planning agency, involving questionable compatibility with airport activities.

1.5.3. *Project Submittal Information* - When review of a land use development proposal is required under these airport land use compatibility policies (that is, the proposed development falls within the Redlands Municipal Airport influence area (as defined by Figure 2A) and is of a type listed in Paragraph 1.5.2), the following information shall be provided by the applicant in addition to the information otherwise required by the city or county:

- (a) An accurately scaled map showing the relationship of the project site to the Redlands Municipal Airport boundary and runway.



- (b) If applicable, a detailed site plan showing ground elevations, the location of structures, open spaces, and water bodies, and the heights of structures and trees.
  - (c) A description of permitted or proposed land uses and restrictions on the uses.
  - (d) For residential uses, an indication of the potential or proposed number of dwelling units per acre; or, for non-residential uses, the number of people potentially occupying the total site or portions thereof at any one time (see Appendix C for methods of calculating people per acre).
- 1.5.4. *Required Findings* - Prior to the approval of a proposal involving any of the above types of land use development, the responsible agency shall make specific findings that:
- (a) Such development is consistent with the primary compatibility criteria and/or the supporting criteria for noise, safety, airspace protection, and overflight; or
  - (b) Other overriding land use factors are of higher priority.

## **1.6 Relationship to Redlands Municipal Airport Plans and Operations**

- 1.6.1. *Redlands Municipal Airport Plans* - The compatibility policies and maps included herein are based upon and are consistent with the 1993 Redlands Municipal Airport Master Plan as adopted by the City of Redlands.
- 1.6.2. *Required Findings* - Any proposals to further develop the Redlands Municipal Airport or change the character of its use in a manner not anticipated by the adopted Master Plan shall be reviewed for consistency with these compatibility policies. Prior to approval of any such changes to the adopted plan, the City of Redlands shall make specific findings regarding the compatibility of that development or use with existing and planned land uses in the airport vicinity. Specific factors to be considered are defined in Section 2.3.
- 1.6.3. *Redlands Municipal Airport Operations* - The compatibility policies herein reflect the current patterns of Redlands Municipal Airport aircraft operations as dictated by federal and state regulations and any applicable local ordinances or permits. Unless supported by such regulations, ordinances, or permits, or amendments thereto, these policies are not intended to restrict the aircraft activity or other uses of the Redlands Municipal Airport.

## **1.7 Heliport Plans and Operations**

- 1.7.1. *Project Submittal Information* - Any application for construction of a new heliport (or modification of an existing heliport) located within the City of Redlands for which a state heliport permit is required shall include sufficient information to enable adequate assessment of the proposal's noise, safety, height restriction, and overflight impacts. At a minimum, information to be submitted shall include:
- (a) A layout plan drawing of the proposed facility showing the location of: (1) property boundaries; (2) helicopter takeoff and landing areas; and (3) helicopter approach/departure zones.
  - (b) Airspace surfaces in accordance with Federal Aviation Regulations Part 77, together with the locations of any obstructions to those surfaces.
  - (c) Activity forecasts, including the number of operations by each type of helicopter proposed to use the facility.
  - (d) Proposed flight track locations and projected noise contours or other relevant noise impact data.
  - (e) A map showing existing and planned land uses in the vicinity of the proposed heliport.
  - (f) Identification and proposed mitigation of impacts of the types listed in Section 1.3 on surrounding land uses.
- 1.7.2. *Required Findings* - Prior to approval of a development plan for an existing or proposed public-use or special-use heliport, the City of Redlands shall make specific findings regarding the compatibility of that development with existing and planned land uses in the vicinity. Specific factors to be considered are defined in Section 2.3.
- 1.7.3. *Helicopter Operations* - The compatibility concerns addressed by these policies should be considered in the review of proposed operational procedures for any existing or future heliport located within the Redlands city limits. However, any helicopter operational procedures to be established or modified as the result of such review must be consistent with applicable federal and state aviation regulations.

## **1.8 Relationship to Other Local Agencies**

- 1.8.1. *Notification of Other Agencies* - In addition to internal review, the primary agency involved (the City of Redlands, City of Highland, or the County of San Bernardino) shall refer information on certain actions involving airport land use compatibility issues to other involved agencies for review and comment.
- 1.8.2. *Actions Requiring Notification by City of Redlands* - The City of Redlands shall notify the County of San Bernardino and, if appropriate, the City of Highland regarding any of the following types of actions which have the potential to affect land uses within those jurisdictions.

- (a) Any proposed changes to the configuration of the Redlands Municipal Airport runway/taxiway system or instrument approach capabilities which are not indicated in the adopted Redlands Municipal Airport Master Plan.
  - (b) Any proposed modification to the airport's established airplane or helicopter flight patterns.
  - (c) Any proposed heliports which would result in approach/departure routes over unincorporated areas or the City of Highland.
- 1.8.3. *Actions Requiring Notification by County of San Bernardino* - The County of San Bernardino shall notify the City of Redlands regarding any of the following types of actions which have the potential to affect or be affected by Redlands Municipal Airport operations:
  - (a) Any proposed amendments to a county general plan, specific plan, or zoning ordinance which would affect land uses within the Redlands Municipal Airport influence area.
  - (b) Any proposal for construction or alteration of an object which would be located within 20,000 feet of the Redlands Municipal Airport runway and which would require notice to the Federal Aviation Administration in accordance with Federal Aviation Regulations Part 77, Paragraph 77.13.
  - (c) Any proposal for construction of a public-use or special-use heliport or airport which would be located within 20,000 feet of the Redlands Municipal Airport runway and which would require a permit from the California Department of Transportation.
- 1.8.4. *Actions Requiring Notification by City of Highland* - The City of Highland shall notify the City of Redlands regarding any of the following types of actions which have the potential to affect or be affected by Redlands Municipal Airport operations:
  - (a) Any proposal for construction or alteration of an object which would be located within 20,000 feet of the Redlands Municipal Airport runway and which would require notice to the Federal Aviation Administration in accordance with Federal Aviation Regulations Part 77, Paragraph 77.13.
  - (b) Any proposal for construction of a public-use or special-use heliport or airport which would be located within 20,000 feet of the Redlands Municipal Airport runway and which would require a permit from the California Department of Transportation.
- 1.8.5. *Responsible Agency* - Notification of other local agencies does not shift the primary responsibility for action on a proposed land use or airport development proposal from the jurisdiction within which the development would occur. Comments received from other agencies shall be treated in the manner otherwise required for the action involved.

## 2. COMPATIBILITY REVIEW CRITERIA

### 2.1 Basis for Compatibility Zone Boundaries

The boundaries of the airport land use compatibility zones diagrammed in Figure 2A were initially outlined in accordance with the general guidelines described below. The basic boundaries were then modified to reflect airport traffic patterns, existing land uses, distinct geographic features, and other factors unique to the Redlands Municipal Airport and its environs. Noise, safety, overflight, and, to some extent, airspace protection concerns were all taken into account in the boundary definitions.

- 2.1.1. *Compatibility Zone A* - Zone A includes the airport runway and immediately adjacent areas wherein uses are restricted to aeronautical functions in accordance with Federal Aviation Administration standards. The lateral limits of Zone A are defined by the airfield building restriction lines as depicted on the Redlands Municipal Airport Layout Plan. The length of Compatibility Zone A is set to encompass the runway protection zone located at each end of the runway. Runway protection zone dimensions are defined by Federal Aviation Administration airport design standards and take into account the runway approach type and the type of aircraft the runway is intended to accommodate.
- 2.1.2. *Compatibility Zone B1* - The boundaries of *Zone B1* are intended to encompass the 60 dBA Community Noise Equivalent Level contour as well as additional areas where aircraft commonly flying at less than 400 feet above ground level (ACL) when approaching or departing the airport. The size and shape of *Zone B1* at Redlands Municipal Airport reflects both the dominance of departures toward the west and the lack of an airplane traffic pattern on the south side of the runway.
- 2.1.3. *Compatibility Zone 82* - Zone 82 includes areas along the principal departure paths overflown by a high volume of aircraft at an altitude of less than 800 feet ACL.
  - (a) Because relatively few of the departures at Redlands Municipal Airport are to the east, no Zone 82 is included at that end of the runway.
  - (b) Also included within the *Redlands Municipal Airport Zone B2* are the standard helicopter approach and departure routes and flight training pattern as currently established south of the airport. The south-side pattern is the result both of the landing site's location south of the runway and the preferred practice of separating helicopter traffic from airplane traffic. The Redlands Airport Advisory Board has recommended to the City Council that the existing helicopter flight training pattern be regarded as an interim pattern for use only until such time as residential development occurs within the area affected. In the meantime, efforts will be made to determine an alternative pattern location (potentially on the north side of the airport with construction of a new helipad in the airport's northeast corner). If a future amendment of the airport rules and regulations officially eliminates the present south-side helicopter flight training pattern, most of the *Zone B2* adjacent to the south side of the airport can be redesignated as a *Zone C*. A portion of the area may need to remain as Zone 82 to reflect the flight route of helicopters approaching and departing the airport from and to the south.

- 2.1.4. *Compatibility Zone C* - The outer boundary of Zone C is defined as the area commonly overflowed by aircraft at an altitude of 1,000 feet or less above ground level. Included are locations beneath the traffic pattern and pattern entry points. Also included is the area southeast of the airport where high terrain results in penetrations of the FAR Part 77 airspace surfaces.
- 2.1.5. *Compatibility Zone D* - Zone D includes other areas within the airport vicinity which are overflowed less frequently or at a higher altitude by aircraft arriving and departing the airport.

## **2.2 Land Use Actions**

- 2.2.1. *Primary Land Use Compatibility Criteria* - The primary criteria for assessing whether a potential land use development is to be judged compatible with a nearby airport are set forth in the Primary Compatibility Criteria matrix. Table 2A. These criteria are to be used in conjunction with the compatibility map and policies for Redlands Municipal Airport as presented in Figure 2A.
- 2.2.2. *Function of Supporting Criteria* - The Primary Compatibility Criteria matrix represents a compilation of compatibility criteria associated with each of the four types of airport impacts listed in Section 1.3. For the purposes of preparing or amending community land use plans and zoning ordinances, as well as in the review of most individual development proposals, the criteria in the matrix are anticipated to suffice. However, certain complex land use actions may require more intensive review. The supporting compatibility criteria outlined in Section 3 are provided for use in those circumstances.
- 2.2.3. *Special Conditions*
  - (a) *Infill* - Where substantial incompatible development already exists, additional infill development of similar land uses may be allowed to occur even if such land uses are to be prohibited elsewhere in the zone. This exception does not apply within the Compatibility Zone A. Projects can be considered infill if they meet all of the following criteria:
    - (1) The project site is bounded on at least three sides by uses similar to those proposed.
    - (2) The proposed project would not extend the perimeter of the area developed with incompatible uses.
    - (3) The proposed project does not otherwise increase the intensity and/or incompatibility of use through use permits, density transfers or other strategy.

Zone	Location	Impact Elements	Maximum Densities		Required Open Land <sup>3</sup>
			Residential (du/ac) <sup>1</sup>	Other Uses (people/ac) <sup>2</sup>	
<b>A</b>	Runway Protection Zone or within Building Restriction Line	<ul style="list-style-type: none"> <li>High risk</li> <li>High noise levels</li> </ul>	0	10	All Remaining
<b>B1</b>	Approach/Departure Zone and Adjacent to Runway	<ul style="list-style-type: none"> <li>Substantial risk – aircraft commonly below 800 ft. AGL</li> <li>Substantial noise</li> </ul>	0.1 (10-acre parcel)	60	30%
<b>B2</b>	Extended Approach/Departure Zone	<ul style="list-style-type: none"> <li>Moderate risk – aircraft commonly below 400 ft. AGL or within 1,000 ft. of runway</li> <li>Significant noise</li> </ul>	0.5 (2-acre parcel)	90	30%
<b>C</b>	Common Traffic Pattern	<ul style="list-style-type: none"> <li>Limited risk – aircraft at or below 1,000 ft. AGL</li> <li>Frequent noise intrusions</li> </ul>	6	150	15%
<b>D</b>	Other Airport Environs	<ul style="list-style-type: none"> <li>Negligible risk</li> <li>Potential for annoyance from overflights</li> </ul>	No Limit	No Limit	No Requirement

Zone	Additional Criteria		Examples	
	Prohibited Uses	Other Development Conditions <sup>4</sup>	Normally Acceptable Uses <sup>5</sup>	Uses Not Normally Acceptable <sup>6</sup>
<b>A</b>	<ul style="list-style-type: none"> <li>All structures except one with location set by aeronautical function</li> <li>Assemblages of people</li> <li>Objects exceeding FAR Part 77 height limits</li> <li>Aboveground bulk storage of hazardous materials</li> <li>Hazard to flight<sup>7</sup></li> </ul>	<ul style="list-style-type: none"> <li>Dedication of avigation easement</li> </ul>	<ul style="list-style-type: none"> <li>Aircraft tiedown apron</li> <li>Pastures, field crops, vineyards</li> <li>Automobile parking</li> </ul>	<ul style="list-style-type: none"> <li>Heavy poles, signs, etc.</li> <li>Orchards, large trees</li> </ul>
<b>B1 and B2</b>	<ul style="list-style-type: none"> <li>Children's schools, day care centers, libraries</li> <li>Hospitals, nursing homes</li> <li>Highly noise-sensitive uses (e.g., outdoor theaters)</li> <li>Aboveground bulk storage of hazardous materials<sup>8</sup></li> <li>Hazards to flight<sup>7</sup></li> </ul>	<ul style="list-style-type: none"> <li>Locate structures maximum distance from extended runway centerline</li> <li>Minimum NLR<sup>9</sup> of 25 dB in residential and office buildings</li> <li>Dedication of avigation easement</li> </ul>	<ul style="list-style-type: none"> <li>Uses in Zone A</li> <li>Agricultural uses except ones attracting birds</li> <li>Single-family residences on existing lots</li> <li>Warehousing, truck terminals, low-intensity manufacturing</li> <li>Single-story offices</li> <li>Low-intensity retail (e.g., auto, furniture sales)</li> </ul>	<ul style="list-style-type: none"> <li>Residential subdivisions</li> <li>Multi-family residential</li> <li>Intensive retail uses</li> <li>Intensive manufacturing or food processing uses</li> <li>Multiple story offices</li> <li>Hotels and motels</li> </ul>
<b>C</b>	<ul style="list-style-type: none"> <li>Children's schools</li> <li>Hospitals, nursing homes</li> <li>Hazards to flight<sup>7</sup></li> </ul>	<ul style="list-style-type: none"> <li>Dedication of overflight easement for residential uses</li> </ul>	<ul style="list-style-type: none"> <li>Uses in Zones B1 and B2</li> <li>Parks, playgrounds</li> <li>General retail, offices, etc. (2-story maximum)</li> <li>Low-intensity manufacturing, food processing</li> <li>Two-story motels</li> </ul>	<ul style="list-style-type: none"> <li>Major shopping malls</li> <li>Theaters, auditoriums</li> <li>Large sports stadiums</li> <li>Hi-rise office buildings</li> </ul>
<b>D</b>	<ul style="list-style-type: none"> <li>Hazards to flight<sup>7</sup></li> </ul>	<ul style="list-style-type: none"> <li>Deed notice required for residential development</li> </ul>	<ul style="list-style-type: none"> <li>All except ones hazardous to flight</li> </ul>	

Source: Shutt Moen Associates (September 1996)

Table 2A

## Primary Compatibility Criteria

### Redlands Municipal Airport

**NOTES**

- 1 Residential development should not contain more than the indicated number of dwelling units per gross acre. Clustering of units is encouraged as a means of meeting the Required Open Land requirements.
- 2 The land use should not attract more than the indicated number of people per acre at any time, measured as an average over the entire site. In *Compatibility Zones B1 and B2*, no single acre (rectangular, not irregular in shape) should be occupied by more than double the average number of people per acre allowed for the specified compatibility zone. In Zone C, no single acre should attract more than triple the average allowable number of people per acre. These figures should include all individuals who may be on the property (e.g., employees, customers, visitors, etc.). These densities are intended as general planning guidelines to aid in determining the acceptability of proposed land uses.
- 3 Open land requirements are intended to be applied with respect to an entire zone. This is typically accomplished as part of a community general plan or a specific plan. See supporting compatibility policies on safety for definition of open land.
- 4 Airport proximity and the existence of aircraft overflights should be disclosed as part of all real estate transactions involving property within any of the airport influence area zones. Easement dedication and deed notice requirements apply only to new development.
- 5 These uses typically can be designed to meet the density requirements and other development conditions listed.
- 6 These uses typically do not meet the density and other development conditions listed. They should be allowed only if a major community objective is served by their location in this zone and no feasible alternative location exists.
- 7 Hazards to flight include physical, visual, and electronic forms of interference with the safety of aircraft operations. See supporting compatibility policies on airspace protection for details.
- 8 Storage of aviation fuel, other aviation-related flammable materials, and up to 2,000 gallons of nonaviation flammable materials are exempted from this criterion in *Zones B1 and B2*.
- 9 NLR = Noise Level Reduction; i.e., the attenuation of sound level from outside to inside provided by the structure.

**Table 2A, Continued**

- (4) The entity having land use authority (City of Redlands or County of San Bernardino) has determined that substantial development already exists and has identified the area accordingly in its general plan or other adopted planning document. (Some of these areas are identified in Appendix C.)
  - (b) *Nonconforming Uses* - In locations not designated as infill areas, nonconforming uses may be expanded by up to 20% of the existing structure floor area or 1,000 square feet, whichever is greater. Nonconforming single-family residences may be expanded provided that the expansion does not result in an additional dwelling unit. These exceptions do not apply within *Compatibility Zone A*. Local ordinances on non-conforming uses may be used if they are more restrictive.
  - (c) *Reconstruction* - Where an existing incompatible development has been partially or fully destroyed, it may be allowed to be rebuilt to a density not exceeding that of the original construction. This exception does not apply within *Compatibility Zone A*.
  - (d) *Land Use Conversion* - The compatibility of uses in the airport influence area shall be preserved to the maximum feasible extent. Particular emphasis should be placed on preservation of existing agricultural and open space uses.
    - (1) The conversion of land from existing or planned agricultural, industrial, or commercial use to residential uses within *Compatibility Zones A and B* is strongly discouraged.
    - (2) In *Compatibility Zone C*, general plan amendments (as well as other discretionary actions such as rezonings, subdivision approvals, use permits, etc.) which would convert land to residential use or increase the density of residential uses should be subject to careful consideration of overflight impacts.
- 2.2.4. *Areas of Special Compatibility Concern* - The purpose of this designation is take note of locations which: (1) are routinely overflowed by aircraft approaching and/or departing the Redlands Municipal Airport, but at some distance from the airport; and (2) have existing and planned land uses which are compatible with the airport activity.
- (a) Notation of areas of special compatibility concern is intended to serve as a reminder that airport impacts should be carefully considered in any decision to change the current land use designation.
  - (b) These areas are not part of the Redlands Municipal Airport influence area and are not subject to the review policies contained in this *Compatibility Plan*, except with respect to the notification requirements indicated in Paragraph 1.8.4. Also, establishment of a buyer awareness program is encouraged if any of these areas are to be converted to residential uses.



- (c) The only portion of the Redlands Municipal Airport environs designated in this manner is the southern edge of the City of Highland.

## 2.3 Airport Development Plans

2.3.1 *Airport Improvement Plans* - When reviewing a future master plan or other plan for improvement of the Redlands Municipal Airport, land use compatibility issues should be evaluated with respect to potential changes in noise, overflight, and safety impacts or height restrictions which would result from the plans' implementation. Inconsistencies between such plans and the compatibility policies herein may occur if the airport improvement plans include:

- (a) New activity forecasts which are: (1) significantly higher than those used in developing the *Redlands Municipal Airport Compatibility Map*; or (2) assume a higher proportion of larger or noisier aircraft
- (b) Proposals for facilities or procedures not assumed herein; specifically:
  - (1) Construction of a new runway or helicopter takeoff and landing area.
  - (2) Change in the length, width, or landing threshold location of an existing runway.
  - (3) Establishment of an instrument approach procedure.
  - (4) Modification of the flight tracks associated with existing visual or instrument operations procedures.

2.3.2 *New Heliports* - If a heliport should be proposed for construction within the Redlands city limits, it should be reviewed for compatibility with surrounding land uses. The review should examine the impacts that the facility would have upon both existing and planned land uses. Questions to be considered include:

- (A) Would the existing or planned land uses be considered incompatible with the heliport if the latter were already in existence?
- (B) What measures are included in the proposal to mitigate the noise, safety, and height restriction impacts on surrounding land uses? Such measures might include:
  - (1) Locating flight tracks so as to minimize the impacts.
  - (2) Other operational procedures to minimize impacts.
  - (3) Acquisition of property interests (fee title or easements) on the impacted land.

### 3. SUPPORTING COMPATIBILITY CRITERIA

#### 3.1 Noise

- 3.1.1. *Projected Noise Levels* - The evaluation of airport/land use noise compatibility shall consider the future Community Noise Equivalent Level (CNEL) contours of Redlands Municipal Airport or a proposed heliport. These contours are calculated based upon aircraft activity forecasts which are set forth in the Redlands Municipal Airport Master Plan or other local planning documents. The city should periodically review the projected noise level contours and update them if appropriate.
- 3.1.2. *Application of Noise Contours* - The locations of CNEL contours are one of the factors used to define compatibility zone boundaries and criteria. It is intended that noise compatibility criteria be applied at the general plan, specific plan, or other broad-scale level. Because of the inherent variability of flight paths and other factors that influence noise emissions, the depicted contour boundaries are not absolute determinants of the compatibility or incompatibility of a given land use. Noise contours can only quantify noise impacts in a general manner; except on large parcels or blocks of land, they should not be used as site design criteria.
- 3.1.3. *Noise Exposure in Residential Areas* - The maximum CNEL considered normally acceptable for residential uses in the vicinity of the Redlands Municipal Airport or any heliport covered by this plan is 60 dB. (Note that this criterion is more stringent than the noise criteria established in the General Plan for residential land uses affected by other noise sources.)
- 3.1.4. *Noise Exposure for Other Land Uses* - Noise level compatibility standards for other types of land uses shall be applied in the same manner as the above residential noise level criteria. Examples of acceptable noise levels for other land uses in an airport's vicinity are presented in Table 2B.
- 3.1.5. *Other Noise Factors* - The extent of outdoor activity associated with a particular land use is an important factor to be considered in evaluating its compatibility with airport noise. In most locations, noise level reduction measures (such as installation of sound insulation or noise barriers) are only effective in reducing interior noise levels.
- 3.1.6. *Single-Event Noise Levels* - Single-event noise levels should be considered when evaluating the compatibility of highly noise-sensitive land uses such as schools, libraries, and outdoor theaters. Single-event noise levels are especially important in areas which are regularly overflown by aircraft, but which do not produce significant CNEL contours (helicopter overflight areas are a particular example). Flight patterns for the Redlands Municipal Airport or any proposed heliport should be considered in the review process. Acoustical studies or on-site noise measurements may be required to assist, in determining the compatibility of sensitive uses.

Land Use Category	CNEL (dB)				
	50-55	55-60	60-65	65-70	70-75
<i>Residential</i>					
single-family, nursing homes, mobile homes	++	+	-	--	--
multi-family, apartments, condominiums	++	+	O	--	--
<i>Public</i>					
schools, libraries, hospitals	+	O	-	--	--
churches, auditoriums, concert hall	+	O	O	-	--
transportation, parking, cemeteries	++	++	++	+	O
<i>Commercial and Industrial</i>					
offices, retail trade	++	+	O	O	--
service commercial, wholesale trade, warehousing, light industrial	++	++	++	O	O
general manufacturing, utilities, extractive industry	++	++	++	+	+
<i>Agricultural and Recreational</i>					
Cropland	++	++	++	++	+
livestock breeding	++	+	O	O	-
parks, playgrounds, zoos	++	+	+	O	-
golf courses, riding stables, water recreation	++	++	+	O	O
outdoor spectator sports	++	+	+	O	-
amphitheaters	+	O	-	--	--
<b>Land Use Acceptability</b>		<b>Interpretation/Comments</b>			
++	<i>Clearly Acceptable</i>	The activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.			
+	<i>Normally Acceptable</i>	Noise is a factor to be considered in that slight interference with outdoor activities may occur. Conventional construction methods will eliminate most noise intrusions upon indoor activities.			
O	<i>Marginally Acceptable</i>	The indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g., installation of air conditioning so that windows can be kept closed). Under other circumstances, the land use should be discouraged.			
-	<i>Normally Unacceptable</i>	Noise will create substantial interference with both outdoor and indoor activities. Noise intrusion upon indoor activities can be mitigated by requiring special noise insulation construction. Land uses which have conventionally constructed structures and/or involve outdoor activities which would be disrupted by noise should generally be avoided.			
--	<i>Clearly Unacceptable</i>	Unacceptable noise intrusion upon land use activities will occur. Adequate structural noise insulation is not practical under most circumstances. The indicated land use should be avoided unless strong overriding factors prevail and it should be prohibited if outdoor activities are involved.			

Source: Shutt Moen Associates (September 1996)

Table 2B

## Noise Compatibility Criteria

### Redlands Municipal Airport

## 3.2 Safety

3.2.1. *Objective* - The intent of land use safety compatibility criteria is to minimize the risks associated with an off-airport aircraft accident or emergency landing.

(A) Risks both to people and property in the vicinity of an airport and to people on board-the aircraft shall be considered.

(B) More stringent land use controls shall be applied to the areas with greater potential risk.

3.2.2. *Risks to People on the Ground* - The principal means of reducing risks to people on the ground is to restrict land uses so as to limit the number of people who might gather in areas most susceptible to aircraft accidents.

(A) A method for determining the concentration of people for various land uses is provided in Appendix C.

3.2.3. *Land Uses of Particular Concern* - Land uses of particular concern are ones in 'which the occupants have reduced effective mobility or are unable to respond to emergency situations. Children's schools and day care centers (with 7 or more children), hospitals, nursing homes, and other uses in which the majority of occupants are children, elderly, and/or handicapped shall be prohibited within *Compatibility Zones A, B1, B2, and C*.

(A) Children's schools and day care centers are facilities as defined by state law.

(B) Hospitals are medical facilities which include provision for overnight stays by patients. Day-use medical clinics are permitted in *Compatibility Zones B1, B2, and C* provided that these facilities meet the maximum density standards found in Table 2A, *Primary Compatibility Criteria*.

3.2.4. *Other Risks* - Storage of fuel or other hazardous materials shall be prohibited in Compatibility Zone A. Except for aviation fuel, other aviation-related flammable materials, and up to 2,000 gallons of nonaviation flammable materials, storage of such materials also shall be prohibited in *Compatibility Zones B1 and B2*.

3.2.5. *Open Land* - In the event that an aircraft is forced to land away from an airport, the risks to the people on board can best be minimized by providing as much open land area as possible within the airport vicinity. This concept is based upon the fact that the majority of aircraft accidents and incidents occurring away from an airport runway are controlled emergency landings in which the pilot has reasonable opportunity to select the landing site.

(a) To qualify as open land, an area must be:

(1) Free of structures and other major obstacles such as walls, large trees or poles, and overhead wires.

(2) Have minimum dimensions of at least 75 feet by 300 feet.

- (b) Roads and automobile parking lots are acceptable as open land areas if they meet the above criteria.
- (c) Open land requirements for each compatibility zone are to be applied with respect to the entire zone. Individual parcels may be too small to accommodate the minimum-size open area requirement. Consequently, the identification of open land areas must initially be accomplished at the general plan or specific plan level or as part of large-acreage projects.
- (d) Clustering of development and providing contiguous landscaped and parking areas is encouraged as a means of increasing the size of open land areas.
- (e) Building envelopes and the airport compatibility zones should be indicated on all development plans and tentative maps within the Redlands Municipal Airport influence area in order to assure that individual development projects provide the open land areas identified in the applicable general plan, specific plan, or other large-scale plan.

### 3.3 Airspace Protection

- 3.3.1. *Height Limits* - The criteria for limiting the height of structures, trees, and other objects in the vicinity of an airport shall be set in accordance with Part 77, Subpart C, of the Federal Aviation Regulations (see Appendix B herein) and, if it should become applicable, with the United States Standard for Terminal Instrument Procedures (TERPS). The Redlands Municipal Airport Airspace Plan is depicted in Figure 3C.
- 3.3.2. *Avigation Easement Dedication* - As a condition for approval of any proposed development within *Compatibility Zone B1 or B2*, the owner shall be required to dedicate an avigation easement to the City of Redlands (it is the intent of the city to acquire remaining private property within *Zone A*).
  - (a) The avigation easement shall:
    - (1) Provide the right of flight in the airspace above the property;
    - (2) Allow the generation of noise and other impacts associated with aircraft overflight;
    - (3) Restrict the height of structures, trees and other objects in accordance with the Redlands Municipal Airport Airspace Plan (Figure 3C herein) and Section 3.3.3;
    - (4) Permit access to the property for the removal or aeronautical marking of objects exceeding the established height limit; and
    - (5) Prohibit electrical interference, glare, and other potential hazards to flight from being created on the property. An example of an avigation easement is provided in Appendix E.

- (b) Within *Compatibility Zones A and B1*, height restrictions of less than 35 feet may be required. See the *Redlands Municipal Airport Airspace Plan* (Figure 3C).
- 3.3.3. *Minimum Restriction* - Other than within *Compatibility Zones A and B1*, no restrictions shall be set which limit the height of structures, trees, or other objects to less than 35 feet above the level of the ground on which they are located even if the terrain or objects on the ground may penetrate Federal Aviation Regulations Part 77 surfaces.
  - (a) In locations within *Compatibility Zones B2 and C* where the ground level exceeds or comes within 35 feet of a Part 77 surface, dedication of an avigation easement limiting heights to 35 feet shall be required in accordance with Paragraph 3.3.2. (No such locations appear to exist within the Redlands Municipal Airport vicinity.)
- 3.3.4. *FAA Notification* - Proponents of a project which may exceed a Part 77 surface must notify the Federal Aviation Administration as required by FAR Part 77, Subpart B, and by the California State Public Utilities Code Sections 21658 and 21659. (Notification to the Federal Aviation Administration under FAR Part 77, Subpart B, is required even for certain proposed construction that does not exceed the height limits allowed by Subpart C of the regulations. Refer to Appendix B for the specific Federal Aviation Administration notification requirements.)
  - (a) Local jurisdictions shall inform project proponents of the requirements for notification to the Federal Aviation Administration.
  - (b) The requirement for notification to the Federal Aviation Administration shall not necessarily trigger an airport compatibility review of an individual project by the local agency (county or city) if the project is otherwise in conformance with the compatibility criteria established herein.
  - (c) Any project submitted for airport land use compatibility review for reason of height-limit issues shall include a copy of FAR Part 77 notification to the Federal Aviation Administration.
- 3.3.5. *Other Flight Hazards* - Land uses which may produce hazards to aircraft in flight shall not be permitted within the airport influence area. Specific characteristics to be avoided include:
  - (a) Glare or distracting lights which could be mistaken for airport lights;
  - (b) Sources of dust, steam, or smoke which may impair pilot visibility;
  - (c) Sources of electrical interference with aircraft communications or navigation; and
  - (d) Any use, especially landfills and certain agricultural uses, which may attract large flocks of birds.

### 3.4 Overflights

3.4.1. *Nature of Impact* - All locations within the Redlands Municipal Airport influence area are regarded as potentially subject to routine aircraft overflight. Although sensitivity to aircraft overflights varies from one person to another, overflight sensitivity is particularly important within residential land uses.

- (a) The City of Redlands and County of San Bernardino should each establish an overlay zone for all properties located within the Redlands Municipal Airport influence area. One function of such an ordinance would be to provide constructive notice as to: (1) what real property is within the airport influence area; and (2) the obligations of a seller of real property to disclose information regarding the airport's proximity to any prospective buyer.
- (b) The City of Redlands and County of San Bernardino may require other appropriate measures, including, but not limited to, requiring the dedication of aviation or overflight easements and deed noticing. See "Other Development Conditions" in Table 2A for guidance on where measures should be applied.

[Figure 2A](#)  
[Compatibility Map](#)



## Background Data

# 3

## Background Data

### INTRODUCTION

### INTRODUCTION

This chapter contains background information relevant to land use compatibility planning for the areas surrounding the Redlands Municipal Airport. Most of this data is summarized from the 1993 *Redlands Municipal Airport Master Plan*. The information is presented here as a means of documenting the airport-specific data upon which this *Compatibility Plan* is based. The material is organized as follows:

- **Airport Environs** - A description of existing and planned land uses in the airport vicinity.
- **Airport Features** - A listing of the principal physical features and services of the airport. The emphasis is on data having potential implications for land use compatibility.
- **Airport Layout Plan** - A copy of the current airport layout plan as shown in the adopted *Airport Master Plan*.
- **Airport Activity** - Data regarding current and forecast airport activity as indicated in the *Airport Master Plan*. Updated information is noted where available.
- **Noise Impact Area** - A map depicting future noise impacts of the airport as projected by the *Airport Master Plan*. Flight track locations, as described by airport management and tenants, have been added to the drawing.
- **Airspace Plan** - Height limit surfaces defined by Part 77 of the Federal Aviation Regulations as illustrated in the *Airport Master Plan*.

**AIRPORT LOCATION AND NEARBY TOPOGRAPHY**

- Located 2 miles northeast of Redlands city center, 7 miles east of city of San Bernardino and 70 miles east of Los Angeles.
- Situated in flat land along south edge of Santa Ana Wash.
- Gradually rising terrain to east; base of San Bernardino Mountains within 3 miles to north and northeast.

**AIRPORT ENVIRONS LAND USE JURISDICTIONS**

- City of Redlands:
  - Airport property fully within city limits.
  - Lands west, south, and within 1 mile north also within city limits.
  - East (beyond 750 feet from runway end) and southeast areas unincorporated, but within Redlands sphere of influence.
- City of Highland:
  - Southeast corner of city is 1 mile north of airport.
- County of San Bernardino:
  - County has jurisdiction within unincorporated area to east and south east and also to northeast beyond ½ mile from runway end.

**EXISTING AIRPORT AREA LAND USES****General Character**

- Mostly agricultural land and open space (including Santa Ana Wash to north) within 1 mile of airport.
- Extensive residential subdivisions beyond 1 mile to west and south and 2 miles to north.

**Runway Approaches**

- Runway 8 (west) Approach - Santa Ana Wash at runway end; residential subdivisions beyond 1 mile.
- Runway 26 (east) Approach - Industrial uses at edge of runway protection zone; Santa Ana Wash and citrus groves beyond ½ mile.

**Traffic Pattern**

- Airplane pattern (only on north side of runway) mostly over Santa Ana Wash.
- Residential uses along pattern entry routes to northwest and west.
- Helicopter pattern south of airport mostly over agricultural and industrial areas.

Source: Shutt Moen Associates (September 1996)

**PLANNED LAND USES IN AIRPORT AREA**

- New *City of Redlands General Plan* adopted in 1995 governs within most of airport environs.
  - Area north of airport limited to flood control use.
  - Lands along south side of airport and in unincorporated area to east reserved for industrial and airport-related uses.
  - West approach and most of lands to east designated to remain agricultural.
  - Park usage indicated for east approach and under helicopter traffic pattern to south.
  - Residential areas within ¾ mile of airport boundary mostly limited to very low density.
- Current *City of Highland General Plan* shows lands south of Greenspot Road designated for flood control, agriculture, and very-low-density residential.
- County of San Bernardino land use plans and zoning covers lands east of airport; indicated uses include:
  - Regional industrial in Runway 26 approach corridor.
  - Floodway to northeast.
  - Urban uses consistent with existing development and Redlands land use designations to southeast.

**ESTABLISHED COMPATIBILITY MEASURES**

- *Redlands General Plan* contains several policies intended to assure compatibility of land uses in airport vicinity.
  - Land uses within projected CNEL 65 dB contour limited to agricultural, open space, golf course, and light industry.
  - Dedication of avigation easements is required as a condition for development approval of projects within one mile of the CNEL 65-dB contour.
  - Airport area development which is subject to discretionary approval to be reviewed with respect to policies in this Compatibility Plan.
  - General Plan establishes safety areas in the vicinity of the airport to minimize hazards to life and property both in the air and on the ground. These areas are based upon the Aviation Safety Component of the 1989 San Bernardino County General Plan.
- Redlands Municipal Code, Section 18.132, Airport Flight Zone, limits heights of objects in airport vicinity.
- San Bernardino County procedures for review of projects within airport planning areas require referral of project information to airport proprietor jurisdiction.

Table 3A

## Airport Environs

### Redlands Municipal Airport

**AIRPORT PROPERTY**

- *Ownership* - City of Redlands.
- *Size* - 170 acres.
- *Elevation* - 1,569 feet MSL.

**AIRPORT PLANNING**

- *Adopted Plans*
  - 1993 Master Plan
- *Proposed Improvements*
  - Extension of Runway 8-26 (350 ft. west; 450 ft. east).
  - RPZ property acquisition.
  - Partial parallel taxiway to north.
  - Apron expansion and hangar construction.

**BUILDING AREA**

- *Location* - South side of airfield.
- *Aircraft Parking Capacity*
  - 307 based and transient tiedowns.
  - 125+ hangar spaces.
- *Other Major Facilities* - Fixed base operations maintenance hangars and offices.
- *Services* - Fixed base operators provide aircraft repairs, instruction and rental, pilots' supplies, and air charter service.

**RUNWAY SYSTEM****Runway 8-26 (Existing)**

- *Critical Aircraft* - Light, twin-engine propeller.
- *Classification* - Airport Reference Code B-I.
- *Dimensions* - 4,510 feet long, 75 feet wide.
  - Runway 8 threshold displaced 900 ft. (short RSA).
  - Runway 26 threshold displaced 800 ft. (power line).
- *Lighting* - Medium-intensity runway edge lighting; Runway end identification lighting.
- *Navigational Aids* - Runway 8 equipped with VASI.
- *Surface* - Asphalt, 12,500 lb. single wheel load.
- *Primary Taxiways* - Full-length south parallel taxiway.
- *Average Gradient* - 2.26%.

**Runway 8-26 (Future)**

- *Critical Aircraft* - Small business jet.
- *Classification* - No change.
- *Dimensions* - 5,310 feet long, 75 feet wide.
  - Runway 26 threshold displaced 266 ft.
- *Lighting* - No changes planned.
- *Navigational Aids* - PAPIs at both runway ends.
- *Surface* - No change.
- *Primary Taxiways* - Edge lighting to be added on south parallel taxiway; partial north parallel taxiway planned.
- *Average Gradient* - 2.16%.

**RUNWAY APPROACHES AND TRAFFIC PATTERNS****Runway 8-26 (Existing)**

- *Approach Type* - Visual at both runway ends.
- *Runway Protection Zones*
  - Runway 8 - Mostly within airport property line.
  - Runway 26 - Roughly 2/3 on airport property.
- *Approach Obstacles*
  - Runway 8 - None.
  - Runway 26 - Power poles, rail line recently removed.
- *Airplane Traffic Pattern* (see Figure 3B)
  - Only on north side of runway.
  - Altitude - 800 feet above airport elevation.
  - Arrival/departure routes affected by airspace of San Bernardino Int'l Airport (formerly Norton AFB) 4½ miles west and by mountains north and northwest.
- *Noise Abatement Procedures* - Avoid overflights of residential housing when possible.
- *Helicopter Traffic Pattern* - South side of runway; designated for interim use.

**Runway 8-26 (Future)**

- *Approach Type* - Visual (no instrument procedures planned).
- *Runway Protection Zones* - Property/aviation easement acquisition planned for remainder of future RPZs.
- *Approach Obstacles* - None.
- *Traffic Patterns* - No changes planned.
- *Noise Abatement Procedures* - No changes planned.
- *Helicopter Traffic Pattern* - To be moved from south side when necessary to allow residential development beneath pattern.

Source: Compiled by Shutt Moen Associates (September 1996) from 1993 Airport Master Plan

**Table 3B**

## Airport Features

### Redlands Municipal Airport

BASED AIRCRAFT			TIME OF DAY DISTRIBUTION		
	Current <sup>a</sup>	Future <sup>b</sup>		Current <sup>a</sup>	Future <sup>b</sup>
Single Engine	200	323	Day	95%	95%
Multi Engine	28	54	Evening	4%	4%
Turboprop	2	6	Night	1%	1%
Turbojet	0	3			
Helicopter	0	5			
Total	230 <sup>c</sup>	391			
AIRCRAFT OPERATIONS			RUNWAY USE DISTRIBUTION		
	Current <sup>a</sup>	Future <sup>b</sup>		Current <sup>a</sup>	Future <sup>b</sup>
Total			All Aircraft		
Annual	65,100 <sup>d</sup>	102,000	Takeoffs		
Average Day	178	279	Runway 8	15%	same
			Runway 26	85%	
Distribution			Landings		
Single-Engine	88.7%	86.3%	Runway 8	15%	same
Twin-Engine	10.5%	11.0%	Runway 26	85%	
Turboprop	0.3%	0.7%			
Turbojet	0.3%	1.0%			
Helicopter	0.3%	1.0%			
			FLIGHT TRACK DATA		
			<ul style="list-style-type: none"> <li>Airplane pattern altitude - 800 feet AGL.</li> <li>Pattern direction <ul style="list-style-type: none"> <li>Runway 8 - left traffic.</li> <li>Runway 26 - right traffic.</li> </ul> </li> <li>Helicopter pattern south of runway.</li> </ul>		
			<p><sup>a</sup> 1991 Activity levels, as set forth in the 1993 <i>Airport Master Plan</i>.</p> <p><sup>b</sup> <i>Airport Master Plan</i> enhanced forecasts 2015.</p> <p><sup>c</sup> Airport manager's estimate of total based aircraft as of November 1995 = 187±</p> <p><sup>d</sup> Total operations for 1993/94 estimated by Caltrans from activity counter data = 41,600.</p>		

Source: Shutt Moen Associates (September 1996)

Table 3C

## Airport Activity

Redlands Municipal Airport

Figure 3A  
Airport Layout Plan

Figure 3B  
Aircraft Noise Concerns

Figure 3C  
Airspace Plan





## APPENDICES